

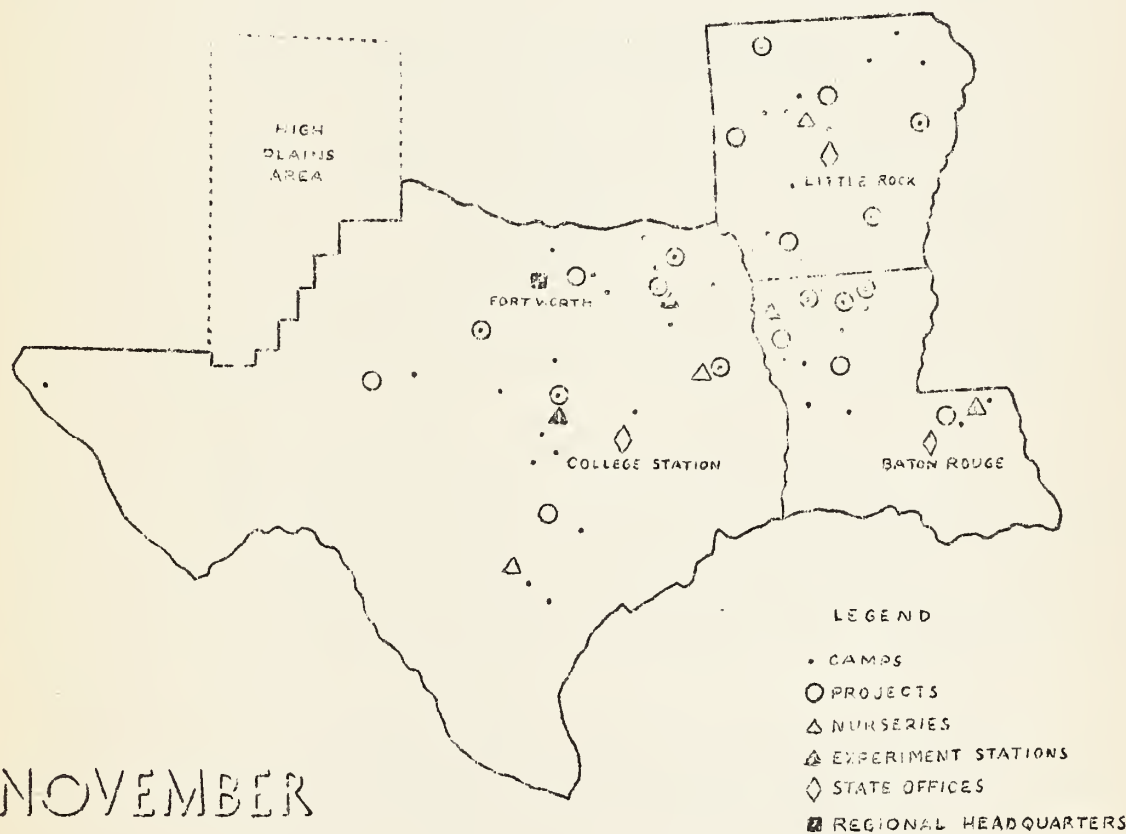
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MAR 15 1936

SOIL CONSERVATION SERVICE

NEWS



REGION 4
COMPRISING STATES OF LOUISIANA
ARKANSAS, AND TEXAS, EXCEPT
HIGH PLAINS AREA

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Soil Conservation Service
U. S. Department of Agriculture
Washington, D. C.

1.17 INCHES OF RAIN- 73,000 TONS

OF SOIL GONE

On October 7th, .97 inches of rain fell, and 1.17 inches fell October 8th. Crooked Creek "got up" and was muddy. Approximately 2,085,000 gallons of water per minute left the Crooked Creek Watershed laden with fertile soil. The Soil Conservation Service sampled the run off water and determined that 102 tons of soil were leaving the area every minute during the rise. The soil which left this watershed will either enrich other areas or in many instances destroy the profitableness of other fields farther down stream.

Soil and water leaving Crooked Creek Watershed:

<u>Time</u>	<u>Gallons of Water</u>	<u>Tons of Soil</u>
Per Second	34,750	1.7
Per Minute	2,085,000	102
Per Hour	125,100,000	6,120

The rain that caused the above erosion was only 1.17 inches and it fell slowly. A heavier precipitation would have caused a greater proportionate damage.

Analyzing this data for the average 120 acre farm we find a soil loss of 18 tons, or 12 wagon loads, for each hour that Crooked Creek was "up". This means that if Crooked Creek stayed "up" 12 hours, as it usually does, each 120 acre farm will lose approximately 216 tons of soil. Approximately 75% of the average 120 acre farm in this area is in such vegetative cover as pasture, meadow, or woodland. The remaining 40 acres of land is normally cultivated and lost about 45 tons or 30 wagon loads of soil per acre.

Very few of us would permit 30 wagons and teams to come into our fields every ten days and haul away 30 wagon loads of our best soil. Yet we actually lose this approximate amount by erosion every time we experience a rainfall similar to the one under discussion.

Considering the average rainfall for the last four years which is 42.4 inches and allowing the same loss for each 1.17 inches of rainfall the average 120 acre farm in this area on the same basis would lose 7,819 tons per year, or 65.1 tons per acre.

The soil gone down Crooked Creek is gone forever. The removal renders many acres of fertile land worthless. Can any farm owner fail to place every practical erosion control practice in use on his farm?

BURR GERMINATES QUICKLY

The following method of treating and planting hulled Burr clover was successfully used on twenty-two seed-multiplication plots in the area during October. Seed planted by this method produced a good stand in nine or ten days, according to Lloyd J. White, Jr. Agronomist. Although Burr clover is usually very slow to germinate, this method is especially helpful when seed is being planted late.

1. Dip seed in cold water (five minutes).
2. Heat water to boiling point.
3. Submerge seed in boiling water for one-half minute. Stir seed to insure even heating.
4. Dip seed in cold water to cool.
5. Inoculate seed.
6. Secure well-rotted barnyard compost, or manure, and mix approximately one bushel of dirt with five pounds of seed.
7. Drop this mixture by small handfuls into a shallow furrow every two feet, furrows being approximately four feet apart. No covering is necessary.

- Monticello, Ark. Project.

"CURED" THE GULLIES

"I broke that field over there three years ago, against my better judgment, and you can still see some small gullies in it," W. L. Johnson told a member of the Soil Conservation Service staff while his farm was being planned. This field was being planned for meadow and the staff member suggested double seeding the small gullies at the time it was planted. "Why that is just plain horse sense," Mr. Johnson remarked. "The next year after the gullies had formed I sowed the field to wheat and told the man working for me to just double the amount of seed when he came to a gully. On top of that I had him haul manure and scatter it over the gullies. He didn't much want to do it, but I told him that it was my team and my field and that I was paying him for his time, so he 'poured the manure to the gullies.'"

Anyway the gullies are not active anymore and grass is growing in them just as luxuriantly as it is in the rest of the field.

Many of the methods employed in preventing erosion are just-- "plain horse sense"-- common, everyday, practical farm practices that can be profitably and economically employed.

- Crooked Creek Project, Harrison, Ark.

MEADOW STRIPS

Much interest attended the preparation of the first four meadow strips in the Minden, La. Project area. These four drainage-ways are the first of approximately fifteen such strips to be laid out and seeded in the Brushy-Cooloy Creek area. As used here the strip serves as an outlet for the terraces draining into it from bordering fields.

The "Meadow strip" is designed to replace that ragged line of underbrush, which may be seen growing in low places and natural drains on most farms. Areas of this type generally have been of no value to the land owner. They frequently hide badly gullied areas or the channels of small drains which have been avoided by the plow. These frowsy gullies show a tendency to increase in size, thus gradually decreasing the amount of actual farmland. They may be called "No Man's Land" because they are being used for nothing.

The farm planning and land utilization program of the Soil Conservation Service has brought out the fact that these hitherto worthless areas are usually the logical places in which to empty the excess water from terraces. It has been found that with small expense most of these eroding and gullied patches of wasteland covered with weeds and scrub bushes, can be changed to well sodded waterways or meadow strips. The two main purposes served by these meadow strips are: First, they are waterways well protected from washing; second, they produce a valuable forage crop.

The width of the strip is at least 100'. It may be wider depending upon the width of the depression in which it is located. Experience has taught us that a minimum of 100' for meadow strips is most practical. Any width less than this would not produce a paying crop in the light of the expense of construction and preparation. The width of the strip must also be sufficient for the edges to be 1 or 2 feet higher than the center, thus eliminating the danger of cutting and gullyng at either side. The wider the strip, the greater spread of water and the less likelihood of its cutting or gullyng.

We would like to call your attention to the meadow strip on Mr. W. C. Fulbright's farm. This meadow strip's total area is $1\frac{1}{2}$ acres and has a drainage area of 183 acres from terraced, unterraced and forest land. Mr. Fulbright was deriving no value from approximately five acres, of the present $1\frac{1}{2}$ acres, which consisted of gullies and an old drain ditch which was grown up in brush and woods. The length of the meadow strip is 4300' and width varies from 100' at the upper end to approximately 250' at the lower end.

- Cooloy & Bushy Crooks Project,
- Minden, Louisiana.

COUNTY AGENT URGES COOPERATION

Farmers in the Poteau Valley of Scott County have now had actual experience in soil conservation. One year has gone by since the first erosion control practices were established by the Soil Conservation Service on a Scott County farm. Experience of the past year has proven the essential practices of soil erosion control as sound and beneficial.

As with any other worthwhile undertaking, especially one as great as conserving the soil, we would not expect that no mistakes be made. Where practices have proven to be unwise, the same have been eliminated, and farmers are praising the work from all sections. In fact, some farmers, who in the beginning would not consider cooperating, are now coming in and asking for the service on their farms. We welcome an inspection of the work by any farmer on any cooperating farm.

We hope no farmer who desires to save his farm will let the closing date for becoming a cooperator (December 31st) catch him napping.

I deem it the duty of cooperating farmers to inform their neighbors of the benefits to be derived by cooperation and the danger of delay in signing up.

B. S. Hinkle,
County Agent.

- Poteau Valley Project, Waldron, Ark.

COMPLIANCE ON AGREEMENT DUE DURING NEXT FEW MONTHS

Cooperators in the Project and Comp areas should make every effort to complete the major work of their part of the agreement by cropping time next spring. The completion of this work is necessary in order to secure maximum protection before the heavy spring rains, to secure a complete demonstration on each farm, to avoid a conflict with regular crop operations, and to enable the Service to complete its part of the agreement.

This work consists of the following:

1. Constructing all terraces, channels and meadow strips as agreed upon.
2. Plowing up and opening the ends of all new terraces.
3. Plowing out strip crop and contour tillage lines.
4. Planting all strip crops.
5. Helping to sod land retired from cultivation.
6. Providing fencing material for all new fences and fence changes.
7. Plowing in gullies to be sodded.
8. Preparing land for tree planting.

9. Construction of contour ridges in pasture areas.
10. Planting pasture and meadow strip and cover crop seed.
11. Removing light brush from pastures.
12. Repairing old fences and doing all other work as agreed upon.

- Groen Creek Project, Dublin, Texas.

"SEEING" CAUSED "BELIEVING" IN LAND USE

Cooperators' correct land use program in the East Cadron Creek Demonstrational area is largely responsible for Thurman C. Clendenon making progress in soil conservation on a farm he recently bought in Faulknor County, Arkansas. After serving as a tenant farmer for five years Mr. Clendenon bought this farm because, as he said, he had gained an impression from correct land use practices in the demonstrational area that he could pay for the farm while building up the soil.

His first essential for soil-saving and land improving, he said, is found in strip-crops on the contour with cotton and corn. Accordingly he stripped the slope with peas and sorghum and cultivated on contour, retaining old terrace lines he found there. Considerable progress has been made this season.

"It will take two or three years for me to learn much about this farm," he said. "I am beginning as best I can to reduce soil and water losses. The soil must also be improved. Rotation of crops, using legumes, and the practice of turning under vegetable matter will be included."

- East Cadron Creek Project, Conway, Ark.

COVER CROPS

Experimental evidence supports the conclusion that the soil is most susceptible to erosion when fields are bare of vegetation. It also indicates that soils low in organic matter, of low fertility are more easily eroded than those high in organic matter and humus. Further, the evidence shows that except on very gentle slopes soil losses occasioned by water erosion are certain to occur if the soil is not held by a ground cover. This situation is especially serious as about three-fourths of all farm crops are produced on land with sufficient slope to induce erosion if not protected with adequate vegetative cover or other control measures.

The continuous loss of soil from the cultivated lands of the United States means reduced fertility and increased expense if crop production is to be maintained. As the fertile topsoil is washed away or becomes depleted, the plow turns up the less productive subsoil, crop yields diminish unless maintained by the use of organic matter and commercial fertilizers, tillage operations become more difficult, and farm profits dwindle.

- Harts Creek Project, Mt. Pleasant, Texas.

ADVANTAGES OF A COVER CROP

1. Reduces run-off of rain and thus conserves moisture.
2. Prevents excessive erosion of soil.
3. Adds organic matter to the soil.
4. Prevents leaching of available plant food, especially nitrate nitrogen.
5. When turned under, forms organic acids or other compounds which aid in liberation of mineral plant food.
6. May provide late fall, winter, and early spring pasture.
7. Protects newly constructed terraces and other mechanical soil erosion devices.
8. Increases yield of corn, cotton and other regular farm crops.
9. When plowed under, improves the structure of both heavy and light soils and increases the water-absorbing capacity and the infiltration of water into the soil.

The following statement concerning cover crops comes from the Soil Erosion Experiment Station at Tyler, Texas.

"Heavy and timely production of leguminous green manure has been obtained at the Tyler Station, and many other southern and southeastern Experiment Stations, with vetches, Austrian winter peas, and like crops. At the Tyler station, it has been estimated that phosphate plus vetch seed, inoculation and planting, cost \$1.00 more per acre than the recommended most profitable spring fertilization for cotton (400 # 4-6-4). The prospects of sufficiently increased yields of following crops to pay for the difference the first year are good: the hold-over effects for two or three years promise to be clean gain. Other general beneficial effects follow this practice. The soil becomes more open and absorptive; produces better stands and there is less crusting; it is more productive than any other common crop. Leguminous green manuring "tones up" the soil, tends to make it like "new land", again.

"Small grain for winter cover, temporary winter pasture, and spring green manure has effected valuable erosion protection and more than paid for its cost in pasturage provided."

- Harts Creek Project, Mt. Pleasant, Texas.

RODENT CONTROL

Gopher control is essential to soil conservation in most of the hill land in northwest and north-central Louisiana. The burrowing habits of these rat-like animals make them a serious menace to terraces and certain types of dams. The breaking of terraces, in many instances, can be directly attributed to the work of the pocket gopher (commonly referred to as the salamander).

The poisoning of the gopher has proven the most economical way to get rid of these animals. Since their natural food consists of fleshy roots, underground stems, and leaves and grains growing in its habitat, one of these may be selected as a base for poison. Baits most commonly used are sweet potatoes and carrots. The bait to be used in this area will be sweet potatoes cut into sections $1/2$ inch square and $1-1/2$ inches long. Such large pieces are used because the gopher has a tendency to store smaller pieces of bait.

The formula that has given excellent results in previous poisoning is as follows: cut 2 quarts of potatoes into the desired size and dust $1/8$ ounce of strychnine alkaloid and $1/16$ ounce of borax over the pieces of potatoes and mix thoroughly. After the bait has been prepared, it should be put into the gopher runway as soon as possible.

- La. Project No. 5, Farmerville, La.

WHAT SOILS HAVE YOU ON YOUR FARM?

To enable farmers of Tom Green County to become familiar with the soils on their farms, and to better understand the purposes of the erosion survey of their farm, the Soil Conservation Service has on display at their offices in San Angelo a number of soil profiles taken in the area. These profiles are four foot vertical cuts of the soil, mounted on boards, and treated to retain their natural color and positions.

The profiles show why some soils absorb moisture more slowly than others, why certain measures of treatment are required to prevent runoff and erosion, and why some are more erosive than others. Cooperators are invited to come see these soil profiles.

- Upper Concho River Project,
- San Angelo, Texas.

FIELD SERVICE ROADS

It seems necessary for field service roads to cross terraces on most every farm and naturally the crossing of these with farm implements will wear them down. To avoid any weakness, and possibly future breaks at those points, enough fill should be made on each crossing to allow for some soil to be dragged down and still have as much height as the rest of the terrace. On closed end terraces, crossings can be made just as large on the channel or up hill side as the lower side without damage since there is to be no water movement along the terrace.

- Upper Concho River Project, San Angelo, Tex.

SUGGESTIONS FOR NOVEMBER

1. As soon as terrace lines are marked off, remove all stumps, trees, etc.
2. Harvest any peas, sweet potatoes or other truck crops which may be in the way of terraces or an outlet channel.
3. Many cooperators have now fences to build, according to their agreements. Now is a good time to get the posts, wire, staples ready. We suggest that you do this now while you are not busy with your crops.
4. Remove marked trees on demonstrational stand improvement areas for winter wood as needed.
5. It has been observed that in a few cases, where vetch is planted as a cover crop, cattle have cleaned the fields of grass and other available feed and are now eating the vetch. This should be watched by the farmer and when the cattle and hogs begin eating the vetch, move them to some other field.

- Grand Cane Creek Project, Mansfield, La.

FINDS STRIP CROPPING EFFECTIVE

The following letter was received by E. H. Varnell, Project Manager, from J. G. Huff, cooperator with the Sherman E.C.W. Camp:

Sherman, Texas.
September 18, 1936.

Mr. E. H. Varnell,
Soil Conservation Service,
Garland, Texas.

Dear Sir:

After reading the August and September News Letter from your Project, I wish to express my opinion on the Conservation Program that I am practicing on my farm.

When staff members of the Sherman Camp planned my farm, they told me that it would be impractical to terrace $3\frac{1}{4}$ acres on the east and south side of my 180 acre farm, as no suitable outlet was available for the water. Their recommendations of strip cropping this area with 48 foot strips of oats and 96 foot strips of cotton was carried out.

These strips have been carefully examined after two spring rains of four inches each within 24 hours of each other. It was found that as much as five inches of silt was caught on the upper side of the strips that gradually tapered to nothing on the lower side of the strip. A boundary strip prevented any soil from leaving the field.

May I add that a Bermuda sod channel carrying water from 40 acres of terraced land did not damage through these heavy rains.

Very truly yours,

/s/ J. G. Huff,

Whitesboro, Texas.

- Duck Creek Project, Garland, Texas.

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